

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 10/521321 Confirmation No.: 9052
Applicant: CREUTZ, *et al.*
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TC/A.U.: 1796
Examiner: PENG, KUO LIANG
Docket No.: SN132 PCT1
Customer No.: 00137
For: Silicone Foam Control Compositions

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AFFIDAVIT UNDER 37 C.F.R. §1.132

Sir:

I, Serge Creutz, being duly sworn, say that:

1. I received a PhD degree in Polymer Sciences from University of Liège in Belgium in 2002.
2. I have been employed by the Dow Corning Corporation at Midland, Michigan since 1996, during which time I have been engaged in research and development activities in the fields of Antifoam and Granulated Products. Prior to this, I was employed as PhD student. I am a co-inventor of 11 U.S. patents and have authored/co-authored 14 papers and presentations at international conferences.
3. I am familiar with the above identified patent application.

4. Under my supervision, the experiments below were performed to distinguish the invention of SN132 (U.S. Patent Serial No. 10/521321) from Schmid et al. (U.S. Patent No. 6,610,752).

Invention of SN132

4% by weight treated precipitated silica (Sipernat® D10) and 2% R972 partially hydrophobic silica (both supplied by Evonik) were dispersed in 87.3% polydiorganosiloxane fluid having a degree of polymerisation of 60 and comprising 80 mole% methyl ethyl siloxane groups, 20 mole% methyl 2-phenylpropyl (derived from α -methylstyrene) siloxane groups and 1 mole% divinyl crosslinking groups. The mean number of carbon atoms in the groups R in the polydiorganosiloxane is 2.2. 6.7% by weight of a 60% by weight solution of an organosiloxane resin having trimethyl siloxane units and SiO₂ units in a M/Q ratio of 0.65/1 in octyl stearate was added. The mixture was homogenised through a high shear mixer to form a foam control agent hereinafter denoted FC1.

15 parts by weight of the silicone foam control agent FC1 was mixed at 80°C with 6 parts of Synchrowax HRC glyceryl triester, 0.75 part of Softenol 3118 (glyceryl tristearate) and 0.75 part of Dynasan 116 (glyceryl tripalmitate) to form an additive composition. The molten blend (i.e. the additive composition) was then sprayed onto 77.5 parts by weight of a starch powder carrier in a granulating mixer to produce a supported foam control composition.

Comparison Example prepared according to the teachings of Schmid et al.

The silicone foam control agent FC1 was emulsified. The emulsion weight composition was 19.78 parts of FC1, 83.34 parts of demineralised water, 1.77 part of volpo S2 (steareth-2), 1.77 part of volpo S20 (steareth-20), 0.22 part of xanthan gum (Keltrol RD (Trade Mark)), 0.66 part of hydroxyethylcellulose (Natrosol 250 LR (Trade Mark)), 0.05 part of sorbic acid, 0.09 part of benzoic acid and 0.22 part of a 10% solution of sulphuric acid.

3.36 parts of Synchrowax HRC glyceryl triester, 0.43 part of Softenol 3118 (glyceryl tristearate), 0.43 part of Dynasan 116 (glyceryl tripalmitate) were mixed at 80°C (i.e. the

additive composition) and sprayed onto 85.31 parts by weight of a starch powder carrier in a granulating mixer.

Subsequently, 8.43 parts by weight of the emulsified FC1 prepared above was sprayed onto the blend of starch powder carrier and additive composition. This resulting wet powder was then dried in a fluidized bed at 60°C during 20 minutes to remove the water coming from the aqueous emulsion in order to produce a supported foam control composition

The two foam control agents were tested in a powder detergent formulation which comprised 327 parts by weight zeolite, 95 parts of a 55% aqueous solution of sodium dodecylbenzenesulphonate, 39 parts ethoxylated lauryl stearyl alcohol, 39 parts sodium sulphate, 125 parts sodium carbonate and 125 parts sodium perborate. Each foam control composition was used at a concentration of 0.2% by weight FC1 based on detergent composition. The evaluation was made in a Miele 934 front loading washing machine, loaded with 16 cotton towels, 90g of the detergent formulation, 17 litres of water of 9 degree German hardness using a wash cycle of 42 minutes and 4 rinses R1 to R4 at 40°C. The foam height was measured every 5 minutes during the wash cycle and recorded, where the value indicated is the foam height in the washing machine, with 100% referring to the fact that the window of the machine was full of foam, 50%, that is was half full of foam.

Results:

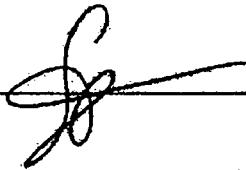
The maximum foam height observed during the wash was:

SN132 Invention : 30 __

Foam Control Agent prepared according to the teachings of Schmid et al.: 70 __

5. Thus it can be seen from the Comparison Example above, that the invention of SN 132 is superior in controlling foam versus a composition prepared according to the disclosure of Schmidt et al. This clearly shows the criticality of having the mixture of the foam control agent and additive composition having a melting point of 35 to 100°C be deposited onto the particulate carrier in non-aqueous liquid form.

6. I declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true. I also declare that, at the time these statements were made, I knew that willful false statements and the like are punishable by a fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that willful false statements may jeopardize the validity of the application, or any patent issuing from it.

A handwritten signature in black ink, consisting of a stylized 'S' followed by a horizontal line, is written over a horizontal line.

Date: 7/10/2008